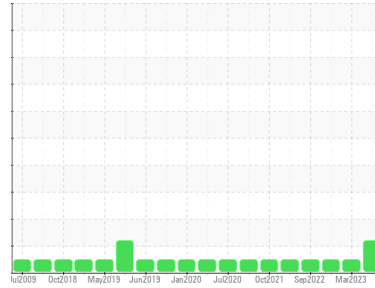




OIL ANALYSIS REPORT

Sample Rating Trend



ADDITIVES



Machine Id
LIEBHERR LR-1400 CR-4404 (S/N 74033)

Component
Diesel Engine

Fluid
TEXACO URSA PREMIUM TDX EC 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Additive levels indicate the addition of a different brand, or type of oil. Confirm oil type.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0893048	WC0785029	WC0720568
Sample Date	Client Info		29 Jan 2024	18 Mar 2023	05 Nov 2022
Machine Age	hrs	Client Info	0	4781	4131
Oil Age	hrs	Client Info	0	500	500
Oil Changed	Client Info		N/A	Changed	Changed
Sample Status			ATTENTION	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	2.5	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	6	7	5
Chromium	ppm	ASTM D5185m >5	<1	<1	<1
Nickel	ppm	ASTM D5185m >5	<1	0	0
Titanium	ppm	ASTM D5185m	<1	0	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >15	3	2	1
Lead	ppm	ASTM D5185m >30	<1	<1	0
Copper	ppm	ASTM D5185m >125	<1	<1	<1
Tin	ppm	ASTM D5185m >5	<1	0	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	263	22	40
Barium	ppm	ASTM D5185m	0	<1	0
Molybdenum	ppm	ASTM D5185m	▲ 5	61	26
Manganese	ppm	ASTM D5185m	<1	<1	0
Magnesium	ppm	ASTM D5185m	▲ 62	509	247
Calcium	ppm	ASTM D5185m	▲ 4017	1636	1988
Phosphorus	ppm	ASTM D5185m 1200	1033	996	931
Zinc	ppm	ASTM D5185m 1300	1196	1170	1098
Sulfur	ppm	ASTM D5185m 3200	2904	3381	4141

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >60	49	9	4
Sodium	ppm	ASTM D5185m	2	0	<1
Potassium	ppm	ASTM D5185m >20	0	2	2

INFRA-RED

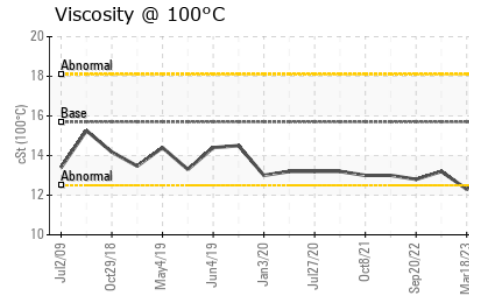
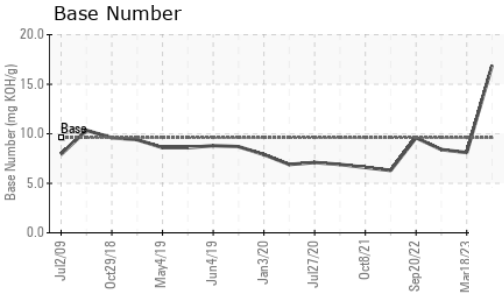
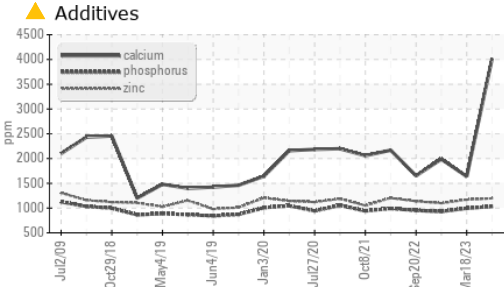
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.1	0.2	0.1
Nitration	Abs/cm	*ASTM D7624 >20	9.9	9.2	7.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	14.4	18.5	17.9

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	9.3	15.7	12.1
Base Number (BN)	mg KOH/g	ASTM D2896 9.6	16.9	8.1	8.4



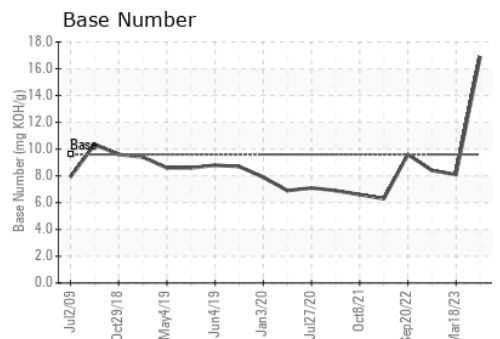
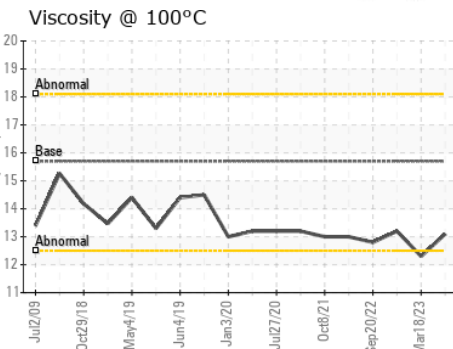
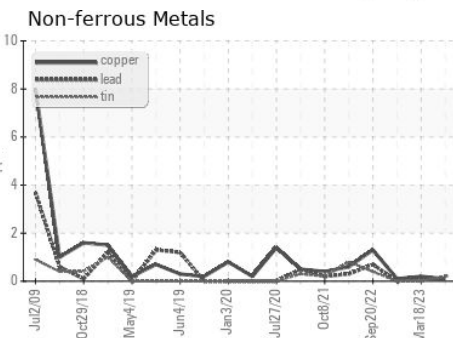
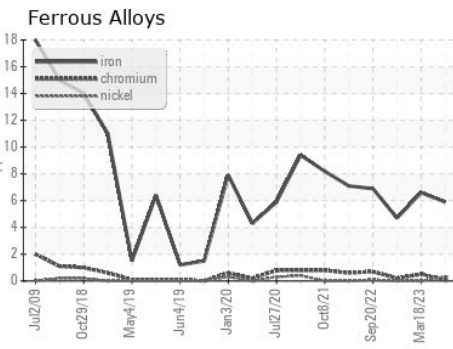
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7	13.1	12.3

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0893048 **Received** : 30 Jan 2024
Lab Number : 06074308 **Diagnosed** : 31 Jan 2024
Unique Number : 10856399 **Diagnostician** : Don Baldrige
Test Package : CONST (Additional Tests: TBN)

BUCKNER - WILLIS
 18123 HWY 75 NORTH
 WILLIS, TX
 US 77378
 Contact: JOHN HAWKINS
 johnh@bucknercompanies.com
 T:
 F:

Certificate L2367
 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)